

WHAT IS CLAIMED IS:

1. A network system connected with multiple master devices, comprising:
  - a plurality of slave devices connected to a network that transmit and receive data through the network;
  - at least one master device that is configured to receive a control command from a network manager and to output state information in response to the control command to control the slave devices; and
  - a network manager that automatically assigns a network address to the at least one master device to connect the at least one master device to the network when the master device is one of newly connected to the network and additionally connected to the network with which an existing master device is connected.
2. The network system as set forth in claim 1, wherein the network manager comprises:
  - a master-device discriminator that determines whether the at least one master device is newly connected to the network and that determines whether a unique address is associated with the at least one master device;
  - a search packet transmitter that generates a search packet for searching for the unique address associated with the at least one master device and that transmits the generated search packet to the at least one master device; and
  - an address notifier that transmits the unique address of the at least one master device to all home appliances connected to the network.
3. The network system as set forth in claim 2, wherein the address notifier

comprises:

a plug-in notifier that notifies all home appliances connected to the network of the unique address of the at least one master device when the unique address is searched and is found for the at least one master device; and

a specific address notifier that automatically generates a specific address when the search of the unique address is not successful and transmits a specific address notification packet for the notification of the generated specific address to all home appliances connected to the network.

4. The network system as set forth in claim 3, wherein the specific address notifier automatically generates a specific address when a slave device is additionally connected to the network and transmits a specific address notification packet for the notification of the generated specific address to the at least one master device connected to the network.

5. The network system as set forth in claim 2, wherein the network manager further comprises:

a counter connected to the search packet transmitter that counts the number of attempts to search for the unique address associated with the at least one master device.

6. The network system as set forth in claim 5, wherein the counter comprises:

a comparator/determinator that determines when the search of the unique address corresponding to the at least one master device unsuccessful, when the number of attempted searches exceeds a predetermined number of searches; and

a specific address requestor that outputs a control signal to request the specific address notifier to automatically generate a specific address when the address search is determined by the comparator/determiner to be unsuccessful.

7. The network system as set forth in claim 2, wherein the network manager further comprises:

a data packet transmitter that generates a data packet containing state information of existing master and slave devices connected to the network and transmits the generated data packet to an additionally connected at least one master device and an existing at least one master device, when the at least one master device is additionally connected to the network with which the existing at least one master device has already been connected.

8. A method of operating a network system connected with one or more master devices, comprising:

(a) connecting a new master device to a network with which a plurality of slave devices are connected;

(b) searching for a unique address associated with the master device; and

(c) notifying all home appliances connected to the network that the master device having the unique address has been appropriately connected to the network.

9. The method as set forth in claim 8, wherein notifying further comprises:

(b-1) repeating a search of the unique address associated with the master device; and

automatically generating a specific address and assigning the generated specific address to the master device when the search of the unique address is unsuccessful.

10. A method of operating a network system connected with one or more master devices, comprising:

(a) connecting a new home appliance to a network with which a plurality of slave devices and an existing master device have been connected;

(b) notifying at least one of the home appliances that the new home appliance has been connected to the network by transmitting a unique address assigned to the new home appliance to the at least one of the home appliances connected to the network;

(c) determining whether the new home appliance is a master device and transmitting, to the new home appliance, a data packet containing state information of at least one of the home appliances connected to the network when the new home appliance is the master device; and

(d) transmitting the data packet to the existing master device when the existing master device connected with the network is used along with the new master device.

11. The method as set forth in claim 10, wherein determining further comprises:

notifying the additionally connected slave device of the unique address of the master device connected to the network when a slave device is additionally connected to the network.